

WHAT IS CLAIMED IS:

1. A data storage caching system, comprising:
 - a cache access concentrator configured to accept storage requests from a host interface; and
 - a write cache controller coupled to the cache access concentrator and configured to accept requests from the cache access concentrator.
2. The data storage caching system of claim 1, wherein the cache access concentrator is configured to accept storage requests from additional hosts.
3. The data storage caching system of claim 1, wherein the cache access concentrator is configured to pass write requests to the attached distributed write cache comprised of at least one write cache controller.
4. The data storage caching system of claim 1, wherein the write cache controller is coupled to at least one disk drive.
5. The data storage caching system of claim 1, wherein the write cache controller is coupled to at least one battery backed power source that provides sufficient power to flush all cached write data to disk in the event of a power outage.
6. A data storage caching system comprising:
 - a write cache controller system configured to accept storage request from a host interface; and
 - a controller device coupled to a hard disk; and
 - a controller device coupled to a backup battery power system; and
 - a controller system coupled to memory for storing cache entries;
7. The data storage caching system of claim 6, wherein the write cache controller is coupled to at least one disk drive in a single mechanical module.
8. The data storage caching system of claim 6, wherein the write cache controller is coupled more than one host adaptor and provides multi-ported access to a single ported hard disk.
9. A method for caching disk read and write requests in a distributed cache system, comprising:
 - caching the write requests at interface speed through a write cache controller into a battery protected memory;

- scheduling cached write data to be written to disk from battery backed memory; and
writing the previously cached write data to disk, thus completing the already acknowledged write transaction to disk while making cache entries available for future incoming write commands.
10. The method of claim 9, further comprising:
creating a pool of available cache entries to accommodate new write commands.
 11. The method of claim 9, further comprising:
responding to read requests for data previously requested and currently in cache;
 12. The method of claim 9, further comprising:
acknowledging a write request once it has been cached in the battery protected memory;
 13. The method of claim 9, further comprising:
flushing all of the write cache contents to the disk in the event of a power failure before shutting down the disk drive
 14. The method of claim 13, wherein the flushing preserves the integrity of all acknowledged writes.
 15. A data storage caching system, comprising:
means for caching the write requests at interface speed in a battery protected memory;
means for scheduling cached write data to be written to a disk;
and
means for writing the cached write data to the disk.
 16. The data storage caching system of claim 15, further comprising:
means for creating a pool of available cache entries to accommodate new write commands.
 17. The data storage caching system of claim 15, further comprising:
means for responding to read requests for data previously requested and currently in cache;
 18. The data storage caching system of claim 15, further comprising:
means for acknowledging a write request once it has been cached in the battery protected memory;

19. The data storage caching system of claim 15, further comprising:
means for flushing all of the write cache contents to the disk in the event of a power failure before shutting down the disk drive
20. The data storage caching system of claim 19, wherein the flushing preserves the integrity of all acknowledged writes.